

CUBIT Capability Proposal

Technical Area

Geometry, Meshing, Infrastructure, GUI, Graphics, etc..

Technical Lead

Cubit Developer in charge of technical area

Meshing Tools/Sweeping	Mike Borden
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MRD Description

Describe the capability in terms of how a user would see it.

Expand the curve bias propagation capabilities of CUBIT. Allow biasing to be propagated across submappable surfaces. Automatically propagate biasing from source to target surfaces when sweeping. Allow bias propagation tool to be used to control skew.

SRS Description

What needs to be done by Cubit developers to implement this capability? Break the tasks into steps if applicable. (Steps should be on the order of 2 man-weeks or more)

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| <ol style="list-style-type: none">1. Design and implement an algorithm for propagating biasing on submappable surfaces2. Create rules for when biasing should be propagated automatically (eg. biasing on a source surface of a swept mesh) and make user interaction easier and more intuitive3. Extend the propagate bias algorithm so that it can also be used to control skew4. Fix the GUI interface to bias propagation |
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Justification

Describe why this is important and what impact it will have if it is implemented. (or not implemented).

This proposal is based on MRD 4.2.2.0-7 and bug #5023. A number of users have complained about the time it takes to set up biasing on a source surface only to have sweeping ignore the biasing when meshing the linking and target surfaces. It is also often impossible to manually propagate the biasing because the current bias propagation requires mappable surfaces that are bounded by only four curves. The new capability will allow biasing to be propagated across any mappable and submappable surfaces. This will allow biasing to be propagated automatically during sweeping. The new capability will be implemented in such a way that it will also be able to control skew on submap surfaces when no biasing is present.

Resources

Who will work on this

Time estimate

How much time will it take in man-weeks

Targeted Release

10.2 (August 06), 10.3 (March 2007), 10.4 (August 2007), Future (beyond FY07)

Mike Borden	10 man-weeks	10.2
Randy (GUI work)	1 week	10.2

Submitted By:

Date:

Mike Borden	April 3, 2006
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